



Waukesha

Waukesha Engine

Natural Gas Engines

Monte McCormick
Vice President - Engineering

Gas Compression Industry



12V-AT27GL driving an Ariel gas compressor for Duke Energy Field Services, Main Pass 225, Gulf of Mexico.

ATGLs and VHPs drive engine compressor packages at a gas gathering operation in the San Juan Basin, New Mexico.



Power Generation Industry



12V-ATGLs driving chillers
for air conditioning at the
Denver International Airport.

Two VHP 7100GSI Enginators
provide stand-by power for
Chicago's 911 Emergency
Communication Center.

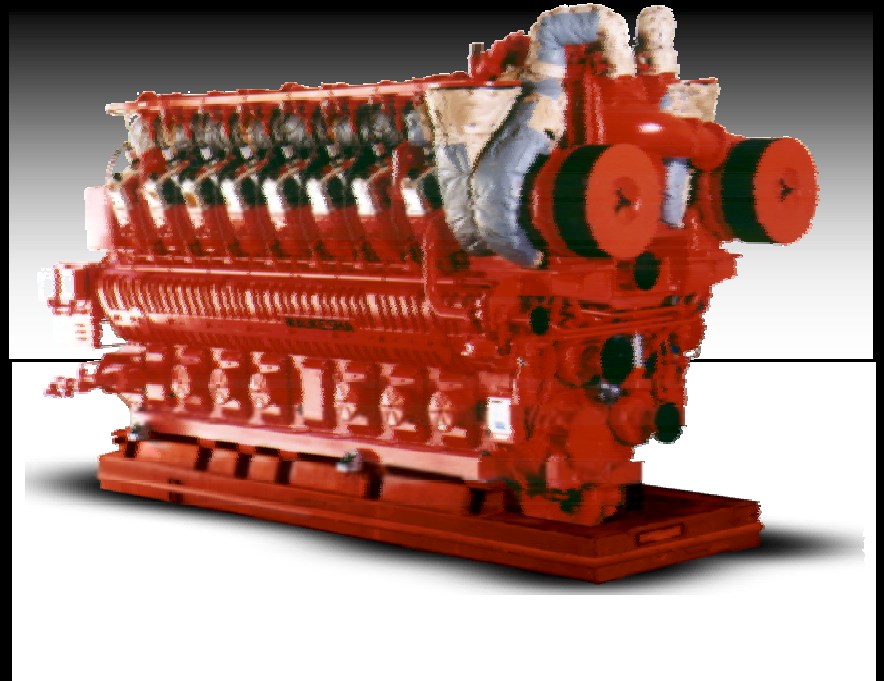


Worldwide Population *(1985 - 2000)*

- Power Generation/Mechanical Drive Only
 - 6200 units totaling over 2,900,000 kW
 - 76.5% Power Generation
 - 23.5% Mechanical Drive

ATGL Product Line

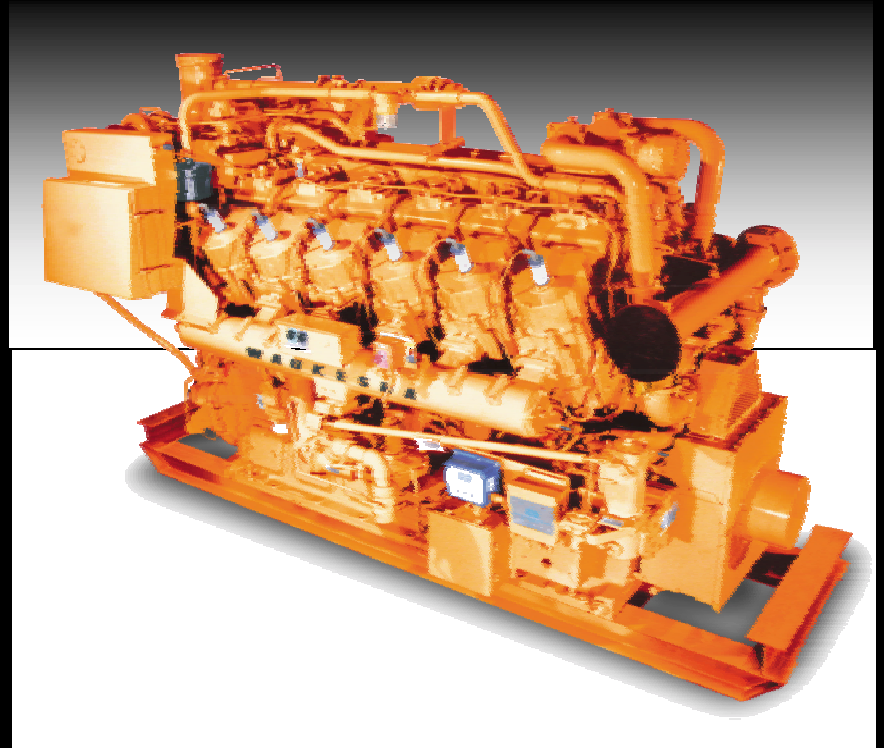
- 8L, 12V, 16V
- Wide range of applications
- Maximum Efficiency
 - 42 %
- NOx emissions
 - .7 to 1.25 gm/bhp-hr



1565 - 4500 bhp
(1170 - 3356 kWb)

VHP Product Line

- Outstanding reputation
- Maximum Efficiency
 - Stoichiometric 33%
 - Lean Burn 35%
- NOx emissions
 - Stoichiometric - 0.15* gm/bhp-hr
 - Lean Burn - 0.7 - 1.25 gm/bhp-hr



246 - 2063 bhp
(183 - 1583 kWb)

* With Catalyst

VGF Product Line

- Introduced late '80's
- Maximum Efficiency
 - Stoichiometric 35%
 - Lean Burn 39%
- NOx emissions
 - Stoichiometric - 0.15* gm/bhp-hr
 - Lean Burn - 0.7 - 1.25 gm/bhp-hr



160 - 1175 bhp
(120 - 880 kWb)

* With Catalyst

Engenius™ ESM Controls

- Embedded Digital Controls
- State of the Art
- Remote Monitoring
- Tighter Control
- Enhances Future Upgrades



Technical Challenges

